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**TAJIKISTAN**

# PRODUCTIVE AGRICULTURE PROJECT

## ANNUAL PROGRESS REPORT

YEAR 1, OCTOBER 2009 – SEPTEMBER 2010



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**YEAR 1, OCTOBER 2009 – SEPTEMBER 2010**

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## Introduction

The Productive Agriculture Project supports the development of the agricultural sector in Tajikistan by improving the competitiveness of high potential value chains, creating new economic opportunities for agribusinesses, and increasing income for farmers. The project is working in Western Khatlon, Sughd and districts in proximity to Dushanbe through three interrelated components: intensified agriculture productivity, improved access to financial services and increased private sector capacity.

At the production level, the project launched its efforts to develop commercially-based systems that support intensive agricultural production. This included the implementation of a focused training program to strengthen the capacity of private agricultural input supply dealers to provide embedded extension services. To communicate best practices and technologies, the project initiated demonstration plots for target commodities, and through a voucher program facilitated up-take of these technologies by lowering their cost of initial adoption. These activities were coordinated with input dealers to establish business linkages and sustain market demand. The accomplishments during Year 1 build the foundation for activities in Year 2 where there will be the rapid scaling up and adoption of techniques as beneficiaries have the opportunity to apply these best practices in the upcoming growing season.

To strengthen the capacity of the private sector, the project conducted research and analysis of target value chains (beef, apricot, lemon, watermelon, onion and tomato) to identify critical bottlenecks limiting the flow of production from the farm to market and the return of profit from the market to the farm. The outcome of this analysis is a priority list of key upgrading opportunities to alleviate constraints to market access and value addition. The project has identified agricultural small and medium enterprises engaged in these activities and has determined a strategy to make strategic investment of its resources which will generate the greatest return for beneficiaries. This builds the foundation for Year 2, where the project will provide business development services to these firms to increase their capacity and help them develop strategic plans, and through matching investment grants, is lead investment in key infrastructure upgrades.

In order to ensure the sustainability of investment, the project is working with financial institutions to develop financial products suited to the needs of rural and agricultural clients. In Year 1 the project assessed the financial sector and developed a strategy to use grant funds to leverage debt investment as a force multiplier to address limiting infrastructure along the value chain. The project has identified partner financial institutions and initiated work to develop financial products and mechanisms to extend credit to finance production machinery, build the collateral of farm enterprises, and create incentives for agricultural enterprises to invest in production.

## Progress Against Benchmarks

Activities in Year 1 introduced new technologies at the production level and developed relationships with value chain partners. Since demonstrations were timed with the growing season to demonstrate results, farmers have not yet had the opportunity to apply these technologies. Similarly the project introduced agribusiness and value chain partners (primarily input dealers) to new market-oriented approaches, which require time to apply and develop into commercial systems. As anticipated in the design of the monitoring and evaluation system, robust impact indicators will not begin to manifest until Year 2 reporting. This section presents baseline data received to date with information generated in the course of Year 1 activities.

### *Impact Indicators*

#### **1. Farmer Income**

The project conducted a baseline of average farmer income by agricultural commodity. The farmer income indicator is designed to measure annual increases in household income for farmers engaged in production of targeted commodities. Some of the survey challenges included varying farm size and the fact that farmers are often engaged in production of numerous commodities, which makes it difficult to measure representative increases in income without the risk of comparing unlike entities. The project is reevaluating its data to determine how best to isolate impact so that there is accurate reporting in changes of farmer income as a result of project activities that increase productivity, enhance value chain competitiveness and improve market linkages.

Baseline Survey Farm Income USD							
	Beef	Apricot	Lemon	Watermelon	Onion	Tomato	Average
<i>Khatlon</i>	\$3,300	\$1,474	\$1,389	\$1,562	\$1,463	\$823	<b>\$4,839</b>
<i>RRS</i>	\$2,133	NA*	\$759	\$851	\$710	\$1,576	<b>\$5,274</b>
<i>Sughd</i>	\$2,346	\$1,343	N/A*	\$1,205	\$1,558	\$913	<b>\$4,041</b>

\* There is less production in this region of this crop

#### **2. Sales Value**

The value of sales, or revenue, is an intermediate measure of AgSME profitability. AgSMEs report on the value of sales on an annual basis and baseline data was taken from a sampling of enterprises in each value chain. Some of the survey challenges include the fact that the profile of the enterprises varied depending on the commodity and value chain function. As an example, enterprises surveyed in the tomato value chain were primarily engaged in transport and shipment, whereas those involved in the apricot value chain were larger-scale processors. The project is

enhancing its database system to disaggregate based on scale and function (wholesaler, retailer, processor, transport, etc.), which will allow for more accurate reporting.

Baseline Survey AgSME Sales USD						
	Beef	Apricot	Lemon	Watermelon	Onion	Tomato
<i>Khatlon</i>	\$44,890	N/A*	\$19,335	N/A*	\$5,587	N/A*
<i>RRS</i>	\$13,239	N/A*	\$2,292	\$45,112	N/A*	\$38,578
<i>Sughd</i>	\$12,225	\$343,015	N/A*	\$3,918	\$11,125	\$14,782

\* AgSMEs engaged in this commodity value chain in this region were not identified

To date the project has worked with 29 firms, which are primarily involved with trading and selling agricultural inputs. These firms reported on average an increase in sales value of 114% if you adjust for a large outlier firm, which experienced a drop in sales due to an interruption in its supply chain caused by problems importing from Uzbekistan. The below table on partner sales provides an overview of the total, and the revised total after removing the outlier firm. This suggests preliminarily project impact as the focus to date has been on engaging smaller-scale input dealers with training. In Year 2 the project will have much heavier engagement with AgSMEs which will allow for more robust data collection as they report sales.

Training with input dealers focused on value chain linkages; marketing of fertilizer to farmers; imbedded services to client farmers (extension); and improvement of linkages with input suppliers. These services improve sales for dealers, but the Project does not claim an exclusive link between training and the improved sales results for this group of AgSME partners in Year 1.

Partner Sales	2009 USD	2010 USD	USD Difference	% Change
29 AgSMEs*	\$ 1,358,856	\$ 691,558	\$ -667,298	-49%
28 AgSMEs	\$ 79,326	\$ 169,990	\$ 90,664	114%

\* This input supply wholesaler had difficulties importing fertilizer from Uzbekistan which led to sharp reduction in sales in 2010. Small input traders had an overall increase in sales in 2010 as trade shifted to the import of smaller shipments of fertilizer.

### 3. Financial Transactions

Financial Institutions do not routinely collect information differentiating between general commercial loan recipients and agriculture related loan recipients. Also, differentiating loans by crops not always done, as most farming enterprises are involved in producing multiple crops, and financial institutions take all crops into consideration as part of the enterprise cash flow. Activities to date have laid the foundation and mechanisms for cooperation but did not result in lending to project partners during Year 1.

The project has signed MOUs with two financial institutions: OAO “Agroinvestbank” and MDO “Arvand”. There is an agreement that these institutions routinely monitor and collect

the information needed, and the project will work with them to establish a reliable and effective means for data collection. Particular care will be placed on measuring financing geared towards the value chain which may not go directly towards the farmers for production, but may on the other hand address important bottlenecks in terms of processing, transport, storage and marketing. The project is working with its partners to establish this monitoring system as part of our cooperation to increase access to finance for project partners.

The project does have both baseline information on lending portfolio for financial institutions most involved in agriculture, as well as year to date data regarding changes in portfolio. This data is not presented here to avoid confusion over project involvement in the changes in agriculture portfolio amongst leading lenders in agriculture.

#### 4. Farm Yield

Farm yield measures the annual increase in total farm production relative to total area under production in the case of crops or market weight per animal for livestock. The following table presents baseline information received. As the project is not focusing on lemon and watermelon production in Sughd or apricot production in RRS yield levels in these areas is not applicable.

Baseline Survey Yield in Tons per Hectare (Tons/Ha)						
	Beef*	Apricot	Lemon	Watermelon	Onion	Tomato
<i>Khatlon</i>	171.6	2.9	18.4	10.7	31.3	18.3
<i>RRS</i>	241.7	N/A	7.3	8.9	31.6	22.6
<i>Sughd</i>	205.3	4.6	N/A	N/A	31.2	26

\*Beef is calculated as “live weight at time of sale”

The project launched initial demonstrations and training in Year 1 in each region for at least one commodity. These trainings were conducted through demonstration plots at the beginning of the planting season so that participants would be introduced to new technologies and see results by the harvest.

Demonstration Plot Yield in Tons per Hectare (Tons/Ha)												
	Beef *		Apricot		Lemon		Watermelon		Onion		Tomato	
	Control	Demo	Control	Demo	Control	Demo	Control	Demo	Control	Demo	Control	Demo
<i>Khatlon</i>					64.0	76.0	33.0	34.80				
<i>RRS</i>	163.6	189.6									15.0	22.20
<i>Sughd</i>	335.6	357.6	5.65	11.38					56.0	98.0		

\*Beef is calculated as “live weight at time of sale”



Since it would not have been possible for participants to fully value and implement these improved practices, there is not data on improved yield as of yet. This will be available in Year 2. However, the table below provides an overview of the yields generated through project demonstration activities. This demonstrates both the production levels of current methods through the control, and improved yields through the demonstration of new technology.

In Year 2 project activities to support production for onions will extend to Khatlon, tomatoes to Sughd and beef to Khatlon and RRS. Lemons will remain the focus in Khatlon and apricots in Sughd, where they enjoy competitive advantages.

Demonstrations / Production Training Activities						
	Beef	Apricot	Lemon	Watermelon	Onion	Tomato
Khatlon	Year 2		Year 1 + 2	Year 1 + 2	Year 2	
RRS	Year 1 + 2					Year 1 + 2
Sughd	Year 1 + 2	Year 1 + 2			Year 1 + 2	Year 2

## 5. AgSME Investment

AgSME investment is the total value of funds spent on capital expenditures, with capital expenditures defined as funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment. This measures expenditures needed for companies to maintain or increase the scope of their operations, and can include everything from repairs of existing facilities to purchase of new equipment. The baseline survey iterated the need to disaggregate data based on the profile and value chain function of the enterprise. The project is examining how it can augment its data to allow analysis along these criteria. The data presented here as part of the baseline is in aggregate only.

Baseline AgSME 2009 Investment				
Region	# Firms	Total (TJS)	Average (TJS)	Average (USD)
Khatlon	20	150,626	7,531	\$1,692
RRS	18	200,392	11,133	\$2,502
Sughd	22	4,627,126	210,324	\$47,264
<b>Total</b>	<b>60</b>	<b>4,978,144</b>	<b>82,969</b>	<b>\$18,645</b>

AgSME Investment is as major focus of Year 2, and the leveraging of grant resources with credit from commercial financial institutions and value chain partner resources will greatly increase the flow of investment. As a result, the project anticipates strong increase of results in this indicator.



## 6. Best Practices Adopted

This indicator refers to the total number of best practices that are both introduced by the project and adopted by beneficiaries, as tracked through forms filled out by training participants and demonstrated by verified use either through telephone interviews or site visits.

Twenty-two Best practices were introduced, through a total of 15 training sessions involving 1,005 trainees. Best practices introduced include:

<u>Input Dealers</u>	<u>Farming Enterprises</u>
1. Fertilizer Market	12. Apricot Integrated Pest Management*
2. Fertilizer Distribution/Handling	13. Onion Seed Varieties*
3. Fertilizer Quality	14. Onion Fertilization*
4. Pesticide Use and Safety <sup>+</sup>	15. Onion Integrated Pest Management*
5. Group Purchasing	16. Tomato Fertilization*
	17. Tomato Integrated Pest Management*
<u>Farming Enterprises</u>	18. Tomato Seed Varieties*
6. Lemon Fertilization*	19. Watermelon Plastic Mulch*
7. Lemon Integrated Pest Management*	20. Watermelon Fertilization*
8. Lemon Pruning*	21. Watermelon Early Planting*
9. Apricot Fertilization*	22. Watermelon Seed Varieties*
10. Beef Feeding <sup>*+</sup>	
11. Beef Calf Care	

\*Tested in field demonstrations

<sup>+</sup>Adopted best practice

In Year 1 the project initiated productivity trainings for farmers through input dealers to enable them to assume a greater role in technology and knowledge transfer in Year 2. Farmers were not able to apply most of these best practices due to the seasonal cycle. The voucher program will facilitate their adoption and uptake in the coming planting season. Notably, there is already adoption of beef feeding and pesticide use and safety best practices.

As included in the work plan, best practices in production will shift to a training of trainers through input dealers and other value chain actors to introduce producers to intensive production technology. AgSME best practices will focus on support to develop strategic plans that improve

value chain linkages and identify upgrading opportunities for investment as a basis for accessing grant, financial market, and value chain partner financing.

The Project is adding efficient manufacturing training (Kaisen) to our best practices. This fits well with manufacturer interest and efforts to increase sales and profits through reduced costs.

## **7. Value Chain Actors with Improved Quality**

Value chain actors with improved quality is the number of AgSMEs and producers that adopt best practices related to grading, sorting, processing, packaging, branding, quality standards, and certification. Changes in these areas are reflective of increased quality of products on the market which results in greater import substitution and increased access to export markets.

In Year 1 training focused on improving butcher access to premium markets in Dushanbe. The results of these adopted best practices are higher quality meat products and real increases in income. The project trained seven butchers, two of whom have applied the following best practices in their businesses and have succeeded initially in supplying expatriate markets.

- Improved Grading of Beef by Retail Butchers<sup>+</sup>
- Improved Packaging of Beef by Retail Butchers<sup>+</sup>
- Improved Sanitation by Retail Butchers<sup>+</sup>

<sup>+</sup>Adopted best practice

Quality improvements have been identified in Year 1 for each commodity which will be introduced in each value chain in Year 2.

Beef:	Linking high quality beef back from butchers to producers
Apricot:	Focused production/post harvest handling training program
Lemon:	Calibration
Watermelon:	Input use, safe food and quality control program
Tomato:	Input use, safe food and quality control program
Onion:	Calibration

## Output Level Indicators

### A. Number of Agriculturally Related AgSMEs and Farms Assisted

Agriculture related firms Assisted	:	151
Farmers	:	854
<b>Total</b>	<b>:</b>	<b>1,005</b>

### B. Number of People Trained

Region	Topics	Partner	Trainings	Total Trainees	Number of Female Trainees
Khatlon	Lemon Production	Farmers	4	108	6
Khatlon	Onion Integrated Pest Management	Farmers	2	23	
RRS	Tomato Production	Farmers	3	63	15
Sughd	Apricot Production	Farmers	5	218	16
Sughd	Fertilizer Use: Onion, Tomato	Farmers	2	44	4
Sughd	Safe Use and Storage of Pesticides	Farmers	1	5	
RRS	Provision of Extension Services	Dealers	1	8	
RRS	Input Fair Organization	Dealers	1	18	2
Sughd	Provision of Extension Services	Dealers	2	37	5
Sughd	General Fertilizer Use	Dealers	2	35	2
Sughd	Fertilizer Use: Onion, Tomato	Dealers	1	13	6
Khatlon	Grant Application Requirements	partners	1	22	
Sughd	Grant Application Requirements	partners	1	25	2
RRS	Grants Application Training	Grants	2	30	2
Sughd	Grants Application Training	Grants	4	42	10
Sughd	Care and Feeding of Calves	Farmers	3	63	19
Khatlon	Watermelon Production	Farmers	1	30	15
RRS	Beef Production, nutrition	Farmers	1	20	5
Sughd	Beef Production, nutrition	Farmers	1	60	13
Sughd	Onion Production	Farmers	2	141	12
Totals			40	1005	134

### C. Number of best practices/new technologies under field testing.

Sixteen new technologies were field tested in Year 1 (see Section 6. Best Practices Adopted above.). These technologies were applied through demonstration plots and provided as supplemental training to farmers.

#### D. Global Development Alliance

The project met with representatives from GDA Washington DC, Avery Ouellette, GDA Alliance Advisor and Steve Schmida, SSG Advisors, to discuss the requirements and options for partnership in Tajikistan. The project is actively seeking opportunities to leverage private sector resources in order to create a partnership with GDA. The first critical step is to identify a commercial partner, which is challenging in Tajikistan where there are unofficial fines and taxes levied by government for social purposes which make it less likely that they would participate in a GDA. However, the project believes that there may be untapped support which could be reached through the Tajikistan Diaspora and is investigating this opportunity in Year 2.

#### E. ROI

Return on Investment is composed of factors including farmer income, agribusiness sale, and investment. Year 1 activities laid the foundation for generating these numbers in Year 2, however, as farms couldn't apply in Year 1 the production technology introduced in Year 1, the project cannot reasonably claim influence on changes in income on the farms that received training. The same is true of investment, and to a lesser extent, agribusiness sales. This will be calculated in Year 2, utilizing length of project figures.

#### F. Voucher Program

The voucher program is intended to provide financial incentives and buy down the cost of adoption of intensive production methods that require inputs (fertilizers, herbicides, pesticides, animal feed, etc.) used in demonstrations. Since there was not an established and trained base of input supply dealers in Year 1, nor a large number of demonstrations from which to build, the project selected two established input supply dealers for a pesticide demonstration. This enabled the project to more actively engage with leading input dealers, introduce the voucher concept, and provide farming enterprises with access to high quality inputs.

Year 1 Pesticide Voucher Program								
Pesticide	Amount	Number of Recipients	Voucher		Buyer Contribution		Total Purchase Facilitated	
			TJS	USD	TJS	USD	TJS	USD
Folikur (liters)	423	193	19,013	\$ 4,272	57,038	\$ 12,817	76,050	\$ 17,090
Falcon (liters)	400	193	14,011	\$ 3,148	46,035	\$ 10,345	60,045	\$ 13,493
Fuzilat Forte (liters)	25	11	875	\$ 197	2,625	\$ 590	3,500	\$ 787
Enjeo (liters)	46	17	4,355	\$ 979	13,204	\$ 2,967	17,559	\$ 3,946
Ridomil Gold (kg)	45	26	1,440	\$ 324	4,275	\$ 961	5,715	\$ 1,284
<b>Total</b>	<b>939</b>	<b>224*</b>	<b>39,693</b>	<b>\$ 8,920</b>	<b>123,176</b>	<b>\$ 27,680</b>	<b>162,869</b>	<b>\$ 36,600</b>

\*Farmers purchased multiple inputs through the project. 193 farmers purchased both the first and second input. 31 farmers purchased a combination of the last 3 inputs for a total of 224 farmers who participated in the voucher program.

# **Year One Summary Information**

## **Component 1: Intensify Agriculture Productivity**

### **1.1 Improved Access for Farmers to New Technologies, Inputs, and Techniques**

**1.1.1** Project activities involving both demonstration plots and vouchers have increased access to complex fertilizer (demonstrations) and high quality fungicides and pesticides (demonstrations and voucher program). Demonstrations have generated increased knowledge of these inputs and corresponding demand.

**1.1.2 -1.1.5** Technology introduction and adoption by farmers is crucial to improved agriculture productivity and overall improvement in sector performance. In order to demonstrate the agronomic/livestock value and economic efficiency of quality inputs and best farmers practices, eleven demonstration sites were established. The locations were set up in major production areas. As the project progresses and market information is known the demonstration plots will be established in areas with strong markets able to absorb additional production. Farmers were informed about the demonstration plots through mass media, including a television broadcast of the open field days showing the visual difference between traditional production methods and introduced methods. Demonstration plots are established using program contribution and matching contribution by the participating farmer.

The Project monitored demonstrations with private farms and the farmers were advised on fertilizer and CPP (crop production product) application, soil cultivation, animal health and irrigation. The technology demonstrations are: lemons (3), apricots (2), tomato (2), onion (1), watermelon (1) and beef (2).

Open field days were conducted at apricot demonstration plots and dealers from Asht, and members of WUA of Zafarabad and Kanibadam. The result was higher yields compared to traditional growing methods.

Shahritus members of Khujai Jon Water Users Association (WUA) attended an open field day that demonstrated three watermelon varieties, use of different colored plastic mulch, and time of planting. The black plastic mulch had fewer weeds and early production compared with white color plastic traditionally used by all farmers.

During the cropping season, the project continued to monitor eleven demonstration trials and three open field days were conducted. An open field day promoting improved technologies for onion production was conducted in collaboration with OJSC “SugdAgroServ” and PO “SugdAgroServ” in Spitamen. Final results confirmed that improved balanced fertilization (NPK) of an early onion hybrid increased yields by 20 percent and profits by 35 percent as compared to the traditional farmers’ practice (no K).

A second field day was held in the Shahrinau district where farmers visited a demonstration testing six tomato hybrids. Visual comparison of treatments indicates that one hybrid fertilized at the recommended rate will produce up to twice the average yield of the remaining five hybrids.

In collaboration with the Farmer to Farmer (FtF) project, Dr. Chapin, a livestock expert visited the beef demonstration in Hissor and created a new feed ration. The project worked with an input supply dealer, who had the ration manufactured and is preparing to distribute the Chapin Premix (minerals and vitamins) through a demonstration then voucher program at the beginning of Year 2.

Activities related to improved beef production included a field day in the Hissor. Results from activities focused on the feeding of improved beef rations showed that average weight gains (0.772 kg/day) for the demonstration group fed improved rations increased by 40 percent over the control group, which received no improved rations.

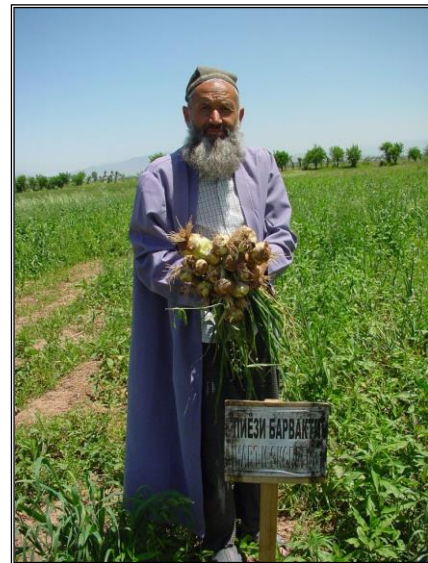
An open field day in Bobojon Gafurov district demonstrated improved beef rations. Impressive daily weight gain (1.531 kg/day of demonstration compared with 1.215 kg/day of the control group) showed a weight gain of 26% over the control group on a 2.3% lower cost feed ration giving a 7.7% higher market price resulting in an overall increase in increased profit of greater than 35%. The Sughd Regional Newspaper “Varorud” published an article dedicated to this event while Sughd TV “CM-1” broadcasted on the Agricultural Program. Press releases and information on the USAID project’s activities and were given to media representatives.

**1.1.6** Selection criteria were developed for work with farmers associations. Opportunities to work with farmers associations have been investigated with the USAID WUASP, ACTED, and OSCE. Separate criteria for groups of farmers to participate in project grants (sprayers and tractors) were also developed as the basis for evaluating participation. Training activities were concentrated in areas of active Water User Associations in Khatlon (J. Rumi and Kumsangir – Lemon; Shahritus – watermelon demonstration and onion voucher program planned in year 1 for year 2) and Sughd (Kanibadam –Demonstration; Zafarobad – onion voucher program planned in year 1 for year 2) The Project organized in Asht a meeting for farmers of Kanibadam WUA with an apricot exporter from Asht. Collaboration and future export possibilities were discussed.

**1.1.7** Training was provided to farmers for all six commodities in association with the 11 demonstration plots established in major commodity production areas. Materials published were used to support training. In total, 16 new production best practices were introduced across all commodities.

A FtF volunteer conducted two seminars on Apricot Management in Asht and Kanibadam regions. Five trainings were conducted with members of Kanibadam, Zafarabad and Sharituz WUA in Lemon Diseases & Pest Control, Fertilizers Effective Use, and Melon Fly Control and Onion Seed.

**1.1.8** Criteria were developed for selecting agro-input dealers to participate in improving existing farm stores and establishing new stores. This activity supports accelerated technology introduction and stimulates private sector investment. The project worked with agro-input dealers in Sughd, Hissor, Tursunzade, Khatlon and the Regions under Republic Subordination RRS around Dushanbe, strengthening their ability to sell quality seeds and fertilizer to hundreds of farmer customers through training, demonstration plots, and a voucher program.



Farmer showing onion yield improvement demonstrated by the Project in Spitamen

## **1.2. Improved Production**

**1.2.1 – 1.2.3** A total of 11 demonstrations were established for improved production of all six targeted commodities. During individual farm visits, technical advisory services were provided for the following farm management activities:

- Improved feed rations (high protein feed and minerals) for fattening bulls
- Guidance on disease and pest control in tomato, onion and lemon production
- Storage and preparation of pesticides for safe field use;
- Availability of improved seed (e.g., onion)
- Provision and guidance on disease control in lemon and apricot production.
- Fertilize use in lemon, apricot, onion, tomato and melons production.
- Weed control and application of herbicides in onion fields.
- Improved feed rations for fattening bulls through use of more protein feed.

**1.2.4** Investigation of drip irrigation showed that materials available on the market (water storage, tank, pipettes and valves) were too costly to be economically viable. Subsequent



investigation at the Khujand Agro-Expo revealed affordable materials produced in China, but still not available in Tajikistan.

**1.2.5** The development of training materials included the preparation of two useful educational aides:

- “Taking Soil Samples” – This technical leaflet describes the importance of testing the soil for nutrient availability and soil acidity. Emphasis is on improving fertilization rates to reflect specific soil and crop nutrient requirements. The leaflet was initially distributed to commercial-oriented farmers and those that manage greenhouse and fruit orchards.
- “Effective Use of Fertilizers” – This technical poster describes the distinction between basal fertilizer and top dressing as well as their time of application and dosage. This poster will help the agro-input dealers to advise farmers on how better to manage their fertilizer programs to improve nutrient use efficiency.

The further development of training materials included the preparation of three useful educational aides:

- “Apricot and Lemon Calendars” – The posters (500 copies each) describe technical activities needed such as fertilization rate by soil type, crop nutrient requirements, pruning, and pest/diseases control. The posters are distributed to farmers and WUA members.
- “Diseases and Pest Control in Citrus” – This poster describes the main pest and diseases affecting lemon production as well as the timing of pesticide application and dosage.

The project continued to support intensified production of the target crops and beef by providing technical assistance during individual farm visits. Technologies and information were provided in the following areas:

- Fertilizer marketing issues
- Improved feed rations (high protein feed and minerals) for fattening bulls
- Guidance on disease and pest control in tomato, onion and lemon production
- Storage and preparation of pesticides for safe field use;
- Availability of improved seed (e.g., onion)

**1.2.6** The project media program included regular discussions on a nationally broadcast radio program, as well as television and radio coverage of open field days.

### **1.3 Improved Sales of Agriculture Input Products**

**1.3.1** New, improved varieties were introduced to improve yield potential

- Tomato seed – six varieties
- Watermelon – three varieties
- Onions – four varieties

**1.3.2** The new varieties were used in the demonstration fields. During open field farmers observed the difference between the new varieties and the traditional ones. At the field days, the yields were assessed; both in quantity terms as well as in financial returns (gross margin).

**1.3.3** Three dealers were selected for project support to improve their farm stores through the project grant program. Improved stores with focused customer service training will assist these stores in improving their sales revenue in the coming years. With support of the Association of Agribusinesses of Tajikistan (AAT) the number of dealer farm stores increased during the year. These shops have access to high quality hybrid seeds, fertilizer, pesticides and agro machinery tools that are made available to farmers. **1.3.4** The dealers also received technical training on the proper use of agricultural products as part of the continuing effort to increase their ability to provide farmer advisory services.

**1.3.5** The total the value of inputs sold during the second quarter of the year increased over the same period of the last year according to data provided by participating dealers polled following the start of the spring planting season. In lemon and apricot demonstrations, two quality fungicides were introduced and were evaluated against the formulation that farmers currently use. In the beef farm demonstration, alfalfa hay and cereals were introduced; farmers currently using low quality hay were not aware of the role of protein and energy requirements in the feeding of the animals. The improvement of beef production heavily relies on the availability of high quality feed. Without improved feed, cattle cannot reach their production potential.

Established private sector agro-input dealers offer the best opportunity to make farmers aware of the opportunities and methods for increasing production and incomes. In order to improve agro-input dealers' technical advisory capability and to assist them in transferring this information to farmer customers, five seminars on Private Sector Extension Service were conducted in Sughd Region and Region of Republican Subordination. A priority is given to transform dealers; to develop their role and strengthen their capacity to provide advisory services to farmers on production technologies and improved crop and animal management practices. A series of seminars were prepared on fertilizer, crop protection products (CPPs), and disease and pest control as well.

Four agro-input dealer members of Agro-business Association of Tajikistan were supported to participate in the Ag EXPO Fair organized in Osh, Kyrgyzstan. The dealers had an opportunity to establish business linkages with nine Kyrgyz, Russian and Polish suppliers. As criteria for

participation in the program, the participants signed an agreement to import inputs to Tajikistan with a value of 7 million TJS (\$170,000). This trip prepared AAT for their work organizing an agriculture expo in Khujand in August.

**1.3.6** STC Mr. Feisal Beig started a 5-week assignment to advise input dealers and wholesalers on marketing strategies for fertilizer, fertilizer quality, and to train project staff as TOT so to continue this marketing training. As part of his consultancy, Mr. Beig developed the document “Fertilizer Market Strategies for Agro-Input Traders.” The report included private sector-driven marketing strategies for agri-input market development based on access to quality fertilizers, regulation of imported fertilizers, policies favorable to agriculture development and a media campaign designed to address each of these components.

**1.3.7** The Project conducted a joint seminar with SughdAgroServ Consulting on group input purchase with input dealers. The participants learned about the advantages of group purchasing. A seminar on Effective Fertilizer Use was conducted in Hissor district to improve agro-input dealers’ technical advisory capability to provide imbedded advisory services. Seminars on crop protection product use and disease/pest control were planned and carried out in the latter part of the year.

Agribusiness Association of Tajikistan (AAT) won a grant to conduct an agriculture expo in Khujand. The purpose of the Ag-Expo was four fold:

- To expose Tajikistan entrepreneurs in the agricultural sector to a variety of companies that provides products, services and assistance.
- To educate business owners on timely topics relevant to the food industry, & agro-inputs
- To generate interest in the activities of Tajikistan growers, processors and agro-input dealers
- To stimulate business networking

Training in Khujand was conducted with staff of AAT that was responsible for organizing Agro-Expo Khujand 2010 on trade fair preparation.

The Agribusiness Association of Tajikistan (AAT), in collaboration with the project, conducted the first international agriculture expo in Khujand with technical support from Ms. Aziza Yuldusheva (Executive Director of the Agrobusiness Association, Kyrgyzstan). USAID Deputy Country Director Kevin Dean attended the fair and made opening remarks. The Expo exhibitors (including 14 international companies), attracted 6,500 attendees and generated \$1,155,000 USD in business transactions.

## **1.4 Ongoing Analysis of Input Markets**

**1.4.1** Regular meetings were held with donor projects and local non-government organizations to discuss issues related to technical advisory services for farmers and agriculture input market development. Included were the following: Agence d'Aide a la Cooperation Technique et au Development (ACTED), German Agency for Technical Cooperation (GTZ), EU/SENAS, Organization for Security and Cooperation in Europe (OSCE), World Bank, International Finance Corporation (IFC), UNDP, Food and Agriculture Organization of the United Nations, EU/CESVI, HELVETAS, Citizens Network for Foreign Affairs – Farmer to Farmer, Winrock International – Water User Association Support Program, Zar Zamin, Jovid, AIN, Agro-Donish, SOF). Site visits were made to 22 agro-input shops for situation analysis, and problem and opportunity assessment. The information developed during the visits and initial contacts established will be useful in finalizing the action plan to provide development assistance.

**1.4.2 – 1.4.4** Study of Input market supply and demand. Collaborated with the World Bank and FAO by providing support and information to FAO consultant Manfred Smotzok on the creation of a report on fertilizer markets. *“Rapid Fertilizer Market Assessment / Development Of Market-Based Solutions For Increasing Domestic Fertilizer Supply Availability In The Short-Term”*

## **1.5 Voucher Program**

**1.5.1 – 1.5.2** Three seminars were conducted with Confederation of WUA in Zafarabad (five WUA), Confederation of WUA in Shahritus (17 WUA) and with the WUA in Rudaki on the voucher program. During the seminars the chairmen of WUA's were trained in how to write proposals for the onion voucher program.

Two suppliers (SughdAgroServ and Amorat) were selected to provide voucher program pesticides to the project. This was the first activity under the voucher program and the farmers were not preselected. The approach was first come first served with dealers registering participants and contact/farm details. Results showed distribution of two pesticides in Hissor district (Amorat Company), vouchers to 187 farmers where 839 liters of pesticides were distributed. The second voucher program started in the fourth quarter and was not completed until after the end of the project year.

A new voucher program for onion production in Zafarabad targeting 163 farmers farming 180 ha was developed and will be launched at the beginning of Year 2. A sprayer matching grant program was also designed in the fourth quarter of Year 1 to provide sprayers for apricot producers with a supporting voucher program.

## **Component 2. Increase Access to Financial Services**

### **2.1 Ongoing Analysis of Financial Markets**

**2.1.1** Current most financial products have short repayment terms (less than one year). Available interest rates are very close to the average return on investment from agriculture production. Given the high risk in agriculture associated with elements beyond the control of the agro-industry to grow products, (e.g. markets and weather) interest rates and terms are needed that support industry development and correspond to a reasonable profit margin and return on investment for business.

Meetings throughout the year took place with the financial sector including microfinance institutions, the banking sector, Sector Apex organizations, and participation in the Agriculture Finance working group. Indications are that credit is readily available, including longer term credit (up to 4 years) and larger loans (up to \$30,000), but that such loans are difficult to access.

**2.1.2** A baseline survey of financial markets for agriculture was conducted by AMFOT, a microfinance apex organization. This survey polled leading agriculture finance institutions, both microfinance institutions and the banking sector. The data confirms that the existing credit market in Tajikistan presents challenges for agriculture related firms.

**2.1.3** Interest rates are high; terms of loan are on average under one year and require significant collateral with a small average size of loan. Analysis of the data indicates that the gap between supply and demand for financial services relates to the high cost of credit, low education of borrowers, and absence of a system to deal with inherent risk (weather, natural disaster). Initial research through demonstration plots show margins in agriculture is almost sufficiently large to make use of most credit an economically sound decision for most agriculture related business. High interest rates, however, cut severely into profit margins and most successful entrepreneurs self finance operating costs. Mostly firms with very strong markets or additional sources of income (primarily remittances) take credit. One major need confirmed by the survey is longer-term credits for farmers and absence of collateral. The baseline survey conducted by Zerkolo of farms and AgSMEs confirmed weak demand for financial credit and difficulty in qualifying for credit.

The project has responded through the creation of a financial product that provides farmers with an incentive grant to access credit greater than 12 months for tractor purchase. **2.1.4 -2.1.5** The results of this study were distributed to the members of AMFOT, the Banking Association, and the Ministry of Agriculture. The information was also presented to the public at the Agriculture Expo in Khujand.

## **2.2 Improved Access to Finance for Support Services, Farmers, Processors**

**2.2.1** and **2.2.2** Work to assist improve access focused on the demand side, working with partners to improve their business systems and ability to qualify for and utilize credit. This was not specific training in loan application, but instead training in input supply and distribution creating the cash flow to justify credit. AAT and its active agro-input dealer members increased purchases and provide more fertilizer, pesticides and high quality seeds to farmers in the areas where farm stores have been opened through project training support. Also, AAT and farms stores owners report having received credit from IMON and Microfinance organizations to increase the volume of imported fertilizer and pesticides based on farmers' requests and in order to develop their business. The Agro Shop in Hissor (project partner) received a loan from AgroInvestBank with project support to import seed and agro-chemical inputs from China, Russia and Kazakhstan.

**2.2.3** Selection criteria for participation were developed and advertised through the mass media. Arvand, Agroinvestbank, and Bovari va Hamkori won this competition, based on their ability to provide interest rates and loan terms of at least 18 month repayment. **2.2.4** and **2.2.5** Focused training was developed by the project for the loan officers of these institutions for administration of the tractor grant. This training will be provided during the first quarter of year 2. **2.2.6** The tractor grants were announced through limited mechanism targeting participating financial institutions and USAID projects. A limited announcement was used due to anticipation that demand for these grants/loans would be greater than supply. In the event that this proves to not be the case, there will be a larger announcement through the media.

## **2.3 Increased Investment in Agriculture**

**2.3.1** The project's determination is that collaboration with the Project provides a small degree of protection against predatory non-market elements, when combined with partner adherence to Tajikistan laws, particularly as relates to taxation and registration requirements.

**2.3.2** The project is targeting bottlenecks in the value chain for infrastructure improvement. This approach brings together an entrepreneur with a marketing capacity and farmers as investors in a joint project. Investments are assessed by the Project on their ability to engage producers of target commodities in the investment. The Project supports grants up to \$30,000 to support defined investment projects (equipment or buildings) of up to \$100,000. Majority investment must be provided by the entrepreneur, with minority investment provided by farm/suppliers. Training was held with entrepreneurs in Khujand and Dushanbe, with follow on training provided to the most advanced group and farmers in Asht district of Sughd Region. This group is

interested in joint investment in the creation of a refrigerated pack house that has the potential to triple the fresh apricot export capacity of the involved group. The group will work with the Project to finalize their technical and business plan for the project. In total, six value added AgSMEs are working with the Project to qualify for investment grants.

## **2.4 Introduction of New Financial Products Supporting Value Chain Development**

**2.4.1 – 2.4.4** Analysis of the policy environment in partnership with IFD, GTZ, and TAFF, as well as participation in the Agriculture Finance working group confirmed that leasing products require excessive documentation, and are subject to additional VAT taxation, making this particular type of financial product unprofitable under current conditions. The project will continue to participate in industry efforts to modify the policy environments so as to make leasing a viable option for equipment purchases.

**2.4.5 – 2.4.9** Contract farming was researched, including meetings with both the TAFF II project and the Helvetas Local Market Development project. Helvetas is targeting firms with weak or non-existent marketing departments and providing free marketing service to these firms. TAFF is targeting a triangle of Banks, AgSMEs and farmers to provide production credit utilizing a contract with an AgSME as collateral. Currently TAFF is experiencing difficulty identifying both AgSMEs willing to engage in contracting and farmers willing to take credit under these conditions. Contract farming requires a strong and stable market offering sufficient premium to suppliers to make them change their relationship with farmers. Traditionally, the sales transaction between processing plants and farmers is seen by both sides as an opportunity to maximize profits. Because AgSMEs have greater market information, in the long term AgSMEs realize the greatest share of profit in this transaction. This dynamic changes, however, when a strong market appears that requires AgSMEs to shift their concern from profit maximization at the purchase level, to ensuring a stable raw material supply of the quality demanded by the market in order to capture a more advantageous market (greater margin, larger volume, better transaction terms, etc). The project is currently meeting with TAFF II to explore opportunities for collaboration utilizing Project Investment grants and Matching Grants to provide additional leverage in the creation of a contract farming product in coordination with TAFF bank financing, Project input dealer support, Project Investment Incentive Grants, Project technical support/certification training and TAFF technical support.

Given the findings of the financial market analysis, the project has developed a new financial product to encourage investment, while addressing high interest rates, low or no collateral, and length of term. Initially, this product is targeting farmers and farmer groups for the purchase of machinery (tractors and implements). The project will provide a competitive matching grant of 25% of the cost to the machinery. To qualify, farmers need to provide a 30% down payment.



The remaining 45% (or less depending on the down payment) will be provided through existing financial institutions. Financial institutions will be selected on a competitive basis (24% or less annual interest rate, 18 month length of term). A supplier providing Belarus tractors was selected based on price competitiveness.

The tractor purchase incentive grant is establishing a new financial product to enable medium sized farms access to needed machinery. Financial partners have been selected (Arvand, AgroInvestBank and Bovari Va Khamkori) for participation. Training for loan officers and farmers is scheduled for October 2010. Farmers will be identified through existing farmer networks, the Project Input Dealer network, financial institutions, and other USAID projects.

### **Component 3. Increase Private Sector Capacity**

#### **3.1 Increased Farm Income through Strong Market Linkages From Farmers to Consumers**



Deputy USAID Country Director Kevin Dean and Kobilov Ahmadjon, Deputy Governor of the Sughd region officially opening the Khujand Agro Expo 2010

During Year 1 multiple meetings were conducted in Dushanbe, Khatlon, and Sughd with stakeholders including government officials, implementers, donors, local service providers, potential recipient farmers and AgSMEs working in all three components of the project. These meetings were an important step, reaching out to engage stakeholders, soliciting input, and educating potential partners on opportunities for project collaboration.

In the first step the project considered potential markets anchoring value chains for the targeted commodities including:

1. Military personnel in Afghanistan through USAID with a variety of products. This would be supplying the defense contractor currently servicing this market. The project presented at the Northern Supply Network conference on opportunities to source from Tajikistan suppliers, and has actively reached out to defense contractors.
2. Retail outlets in Almaty, through an Investor from Kazakhstan. This is in coordination with a potential IFC investment project creating a processing center in Sughd Region.
3. Retail outlets in Russia
4. Informal traders in Afghanistan
5. Partnership with businesses in Uzbekistan.

Each of these opportunities represents important market opportunities for Tajikistan that require ongoing efforts. Strong, stable, and diversified markets take time to build and Project efforts in market development is ongoing.

**3.1.1** A market study was conducted of the six targeted commodities **and 3.1.2** a map of the targeted value chains was created. **3.1.3** The market study included Tajikistan based research on product perception. **3.1.4** Through interviews and interaction with AgSME partners, a list of problems faced by processors and exporters was developed. Processing faces substantial issues. Raw material supply issues exist for processors at the same time that market issues exist for farmers. This is one value chain bottleneck. Further along the value chain an additional bottleneck is that processors have difficulty marketing the products produced and packaged on their inefficient Soviet Era equipment. Investment and credit capable of upgrading processing plant equipment is rare.

**3.1.5** Work fostering value chain linkages involved training of dealers and AgSMEs on their supplier relations. For dealers this included business training, work with wholesalers and the roundtable related to bulk purchasing. With AgSMEs this involved introduction of the value chain investment grant as a means to access financial support in collaboration with supplying farms.

AgSME meetings were held with stakeholders in both Sughd Region, and RRP/Khatlon. The primary purpose of the meetings was to engage a diverse audience of stakeholders in discussions surrounding the results of the Market Study. The audience included representatives of all segments of the target commodity value chains from producer to consumer. A major emphasis was placed on the similarity of difficulties throughout the value chain across commodity lines and the need for strong linkages to support an aggressive market enhancement program. As a result of these meetings a process started to form commodity groups for each of the six target commodities to address specific problems of each commodity but also to work synergistically on mutual problems. Most importantly, partners were identified for ongoing collaboration. Links between value chain members are strengthening at this time, and the Project had based value chain development on facilitating direct linkages between markets and AgSMEs, AgSMEs and Farmers, and Farmers and Input Dealers. Linkages at each level have been enhanced, laying the initial foundation for Year 2 development.

## **3.2. Improved Practices for Grading, Sorting, Processing, Packaging and More Effective Branding**

**3.2.1** and **3.2.2** Baseline information on AgSMEs in targeted value chains regarding grading, sorting, packaging and branding techniques currently in use was gathered as part of the market

study. Grading, sorting, processing, packaging and branding are factors identified in the Market Study needing attention by the value chains to improve profitability. In June a study, “Grading, Sorting, Packaging and Processing: An Analyses of Practices,” was completed for each of the targeted commodities. In each case current procedures are below commonly accepted standards; little grading and sorting takes place at the producer level, packaging is unattractive and variable, processing is inconsistent. Recommendations for each commodity have been included in the study; the findings identify storage and packaging as major obstacles to increased revenue. Plans were developed in Year 1 for the project to address these post harvest gaps identified for onion, lemon, apricot, and beef.

**3.2.3 - 3.2.6** Quality and branding training was developed and presented during the seminar “Seal of quality and Branding” with 21 participants: farmers and processors, and NGO representatives at the Khujand Agro Expo 2010. During the Khujand AgExpo the Project worked in collaboration with ACTED and Mercy Corps conducted training entitled “Quality dry apricot production”. 45 farmers and processors participated. Information was also shared by the Project at the Agroplatfrom meeting and UNDP Coordination Meetings.

The Project conducted a training session “Marketing and competitiveness in canning industry. Analyses and recommendations”. For 20 processors, representative of local and regional administration, Customs and Tax department, State Standard, and eight international organization and projects. This event was organized in coordination with GTZ. Targeted outreach to and engagement of buyers was conducted. Contacts and important information related to the problems and needs of the processing sector were developed.

**3.2.7** Brand development requires a quality foundation, investment in creation and marketing, as well as a commitment to maintain quality. Partners for Brand Development were identified in the Beef and the Apricot Sectors. Work is focused with these groups, as they represent two areas of opportunity. The first is marketing to an internal market that will appreciate the brand and drive sales. The second is an external market to increase the amount paid to Tajikistan traders. Work is ongoing, as advancement in understanding and commitment to financial support a brand is required before Tajikistan businesses will be prepared to launch a brand.

### **3.3 Improved Support Services such as Warehousing, Processing, and Transportation**

**3.3.1** Information has been gathered on processing firms and entered into a data base. The project is marketing our value chain investment grants to this AgSME group. The market study has identified storage as lacking and an impediment to farmers increasing income.

Storage facilities that do exist are antiquated with little or no atmosphere control. Ownership and management is often not in the hands of farmers, leaving the producer with little choice but to sell at harvest at the lowest price. After an active search utilizing published announcement and outreach to the academic and government sector, a consultant was identified to provide this information, as well as GPS coordinates for each registered storage facility. A storage facility research grant was developed during the last quarter of year 1 and will be completed during the first quarter of year 2. **3.3.2** and **3.3.3** Analysis of bottlenecks and presentation to partners was done through the market survey detailed earlier. **3.3.4** The project is currently working with a Fulbright scholar on the creation of a GIS system mapping food distribution of target commodities, including identifying and mapping transportation linkages between production bases and markets. Transportation links through the TIR system in Dushanbe and Sughd as well as transportation service providers identified in year one are being provided for the creation of this map. **3.3.5** Investigation into warehousing systems is starting with the storage facility currently underway. Discussions with storage facility owners will reveal whether energy efficiency a primary concern.

The project organized a roundtable discussion in Dushanbe in partnership with National Association of Small and Medium Enterprises of Tajikistan and Hilfswerk Austria. This roundtable brought together agriculture processors from Khatlon, the areas around Dushanbe, and Sughd to discuss the challenges faced by the agro-processing sector. The roundtable meeting confirmed the preliminary findings of the marketing study, that processors are experiencing similar issues associated with inconsistent supply of raw material, low quality packaging, difficulty accessing markets, and high finance costs. The other assumption confirmed by this meeting was that for processors in general these issues vary in importance. Through this work with Hilfswerk Austria on the round table the USAID Productive Agriculture Project was able to establish contact for further work with processors located in our target areas of Sughd, Western Khatlon, and the areas surrounding Dushanbe.

### **3.4 Knowledge and Implementation of Quality Standards and Certification.**

**3.4.1** Assessment of Quality standards was done within the framework of the marketing study. The study revealed a processing sector reluctant to invest in quality. Instead, firms interviewed expressed skepticism of the size of a market willing to pay more for quality. The focus of processing and manufacturing firms in Tajikistan is on finding ways to reduce costs even at the expense of quality, instead of investing to increase quality.

The exception is the beef sector, where a strong market was identified willing to pay for quality. During the last quarter of the year herd management/feeding trainings as well as meat cutting demonstrations were provided by visiting meat expert Dr. Ryan Morris. Trainings included

sanitation, food safety, tools and proper equipment. Four trainings were conducted with participation of 20 butchers and farmers. In Dushanbe, beef was sold through two days of demonstrations educating local butchers on the potential and demands of the high end fresh beef market.

**3.4.2 – 3.4.6** Due to the absence of certification requirements from major Tajikistan markets (Tajikistan and Kazakhstan), determining the cost of certification was given a requirement of first identification of a market that Tajikistan products could realistically pursue that required such certification. Markets in CA, CIS, and realistic markets in Asia do not require certification. Markets in the EU and higher end markets in Asia are not realistic at the current time and those products that the project learned are being sold to the EU and Japan do not require certification. The determination of the project is that pursuit of existing markets that don't require certification is of greater priority. The Project Marketing Specialist was trained in Kaizen manufacturing, streamlining production and reducing costs for AgSMEs. Given the emphasis of local manufacturing on finding ways to drive costs out of production, this was opportunity seemed applicable. This training will be provided to Apricot processors/exporters in the coming year.



Meat Expert Ryan Murphy Trains butchers in creating t-bone steaks for the market in Dushanbe

## Public Outreach

A range of public outreach interventions were conducted in accordance with the USAID marking and branding policy. The entire Project publications produced (e.g., banners, booklets, invitations, handouts, publications, folders, pen, notepad, advertisements, etc.) and events organized during the quarter were:

- The project newsletter was published and distributed to the Project target groups, partners, INGOs and local NGOs.
- In accordance with the outreach strategy and event plan, in cooperation with state radio channel “Sadoi Dushanbe,” seven interviews were aired with project staff on project activities and demonstration fields. Tajik State Radio “Sadoi Dushanbe” has an audience 3 million people over the Country
- Sughd TV channel “CM-1” aired the two open field day activities, while TV channel “ASIA” aired the first open field day. CM-1 TV Channel has an audience of 350,000 people, while the ASIA channel has an audience of 50,000 people.

- The Asia+ newspaper published one article regarding joint training conducted by the Project and SugdAgroServ Consulting on pesticide group purchase.
- The Regional Sughd “Varorud” newspaper published one article in relation with the beef open field day.

The U.S. Ambassador to Tajikistan, Ken Gross, USAID Regional Director Andrew Sisson, the USAID Country Director, Tajikistan, Mr. Jeff Lehrer, and the USAID Deputy Country Director, Tajikistan, Mr. Kevin Dean visited the demonstration site in Spitamen district on two separate visits where they met with farmers and were briefed on project activities. Regional Director Sisson and Country Director Lehrer both also visited the Project watermelon demonstration in Sharihtus.

A range of public outreach interventions were conducted in accordance with the USAID marking and branding policy. Important examples include: The project newsletter was published and distributed; Seven interviews with project staff on demonstration results and the Tajikistan fertilizer market assessment aired on the Tajik State Radio with a nationwide audience of 3 million; CM1 TV (with an audience of 500,000) aired coverage on the onion open field day and Agricultural Expo; Agricultural Expo Press releases.

## **Interaction between Components**

### **COMPONENT 2 AND COMPONENT 1**

*Migrant Savings- loans.* Farmer Recipients will be linked to C1 work (training, demonstrations, and linkages with Dealers/vouchers) and will be polled for information on input dealers.

*Tractor Loans* – C1 will advertise through farmer network, recipients will be included in C1 activities (training, demonstrations, linkages with Dealers/vouchers), polled for dealer information.

*In-Kind Machinery Grant* – sprayer, planter, agriculture input store upgrade; C1 will advertise through farmer networks, recipients will be included in C1 activities, (training, demonstrations, linkages with Dealers/vouchers), polled for dealer information

*Farmer Owned Onion Storage Matching Grant* - – C1 will advertise through farmer network, recipients will be included in C1 activities (training, demonstrations, linkages with Dealers/vouchers), polled for dealer information.

*Financial Services Needs* – C1 will gather data farmers and agriculture input dealers on their use and need for financing.

### **COMPONENT 2 AND COMPONENT 3**



*Migrant Savings- loans.* AgSME Recipients will be linked to C3 work (Value Chain Communication Facilitation, Commodity Groups, Buyer Groups, PHH training, Value-Added Training, Service Training).

*Grants* – C3 will advertise through buyer network to identify farmers supplying buyers for farmer focused grants. C3 will recommend in-kind and matching grant opportunities identified through interaction with Value Chain AgSMEs. Farmer recipients of grants will be polled for information on buyers, warehousing, and transportation companies. These farmers will be linked with value chain AgSMEs partnering with the project whenever possible.

*Value Chain Investment Grants* – C3 will identify candidate entrepreneurs through direct engagement of VC AgSME partners, where necessary, work with them to increase capacity to qualify for grants where necessary.

*Access to Finance* - The Project can assist AgSMEs participating in the project identify advantageous financing in the market for specific proposals with the Project.

*Onion Storage* – C3 will reach out through AgSME value chain to identify commercial storage operations interested and ably to engage farmers as partners in development of onion storage. C3 will provide any technical support necessary to assist the storage facility develop their systems.

C3 will conduct outreach to Financial Institutions to identify VC AgSME's clients receiving loans from financial institutions as part of the Buyer Identification methodology.

*Financial Services Needs* – C3 will gather data from AgSMEs on their use and need for financing.

### **COMPONENT 1 AND COMPONENT 3**

C1 will organize discussions on industry and consumers needs for quality produce between input suppliers and VC Partners AgSMEs (processors/ buyers) identified by C3. These discussions are designed to facilitate strategic partnership.

C1 will base production technology, training, and demonstrations on market information obtained by C3 from VC AgSME clients. This includes both the needs of the market related to variety, quality, timing, etc. as well as targeting C1 activities with the farmer suppliers and geographic areas from which C3 VC AgSME partners source project commodities for the market.

There is a natural progression that determines the strategic timing of buyer engagement activities for each value chain based on planting season. (See Annex 2)



- 1.) Identify Buyer/VC AgSME; (C3 searching for buyers, C1 asking farmers)
- 2.) Identify Buyer/VC AgSME needs related to technical support and related to product (quality, quantity, sourcing partners or raw material “shed” (C3)
- 3.) Base training/Demo plots/vouchers on identified market needs. Focus Demos and training directly amongst suppliers of buyers or indirectly in the areas where buyers source. (C1 based on data received from C3.)
- 4.) Provide variety, planting tech training requirements of the market immediately prior and during the early (first 2 weeks) of the planting season. (C1 based on data received from C3.)
- 5.) Provide ongoing training to these groups based on findings of demo plots and any new data related to changing demands of market. (C1 and C3)
- 6.) Provide post harvest handling/storage training prior to harvest (C3 working with VC partners, or with C1 partners depending on focus)
- 7.) Provide capacity building support for Buyer/VC AgSME as time allows, before buying season. (C3)
- 8.) Link participating farmers and buyers before harvest. (C3 & C1)
- 9.) Repeat Buyer/VC AgSME identification during peak buying period when they are easiest to identify. (C3 & C1 as #1)
- 10.) Repeat Identify Buyer/VC AgSME needs related to technical support and related to product (quality, quantity, sourcing partners or raw material “shed” (as in water shed) (C3)

## **Collaboration**

### **1. Farmer to Farmer**

The Project staff have worked with the CNFA Farmer to Farmer Program director and received one volunteer for beef feed rations. Future volunteers are requested in butchering and onion storage;

### **2. TSEP**

The Project will imbed staff in the TSEP offices in Shahritus and Asht. Training and demonstration plots will be coordinated as will in-kind grants and the voucher program.

### **3. Land Reform**

The project will distribute information about services available to farmers through this project and will likewise communicate services available through the land reform project to our partners.

### **4. Family Farming**

The project will work with this project to identify opportunities for collaboration.

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